

ABSTRACT OF THE DISCLOSURE

A vertical cavity surface emitting laser with a current guide comprised of an ion implant region and an oxide structure. The oxide structure is beneficially formed first, then, a gain guide ion implant region is formed in or below the oxide structure. The ion implant region extends into an active region. The energy and dosage used when forming the ion implant gain guide can be selected to control the lateral sheet resistance and the active region's non-radiative recombination centers.

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